



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

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MEMORANDUM

**Subject:** Dioxin reassessment and soil cover

**From:** Jon Rauscher *Jon Rauscher*  
Toxicologist

**Through:** John Meyer *John Meyer*  
Section Chief

**To:** Ruben Moya *Ruben Moya*  
Remedial Project Manager

This memorandum presents information on application of the dioxin reassessment and the use of a soil cover at wood treatment facilities.

**Dioxin Reassessment**

On February 12, 2012, EPA issued the non-carcinogenic effect (non-cancer) component of the dioxin reassessment. The cancer component of the dioxin reassessment will be issued at a later date. As part of the non-cancer reassessment, EPA has developed and posted on the Integrated Risk Information System (IRIS) a Reference Dose (RfD) for 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) of 0.7 pg/kg-day. The RfD is an estimate of daily oral exposure to the human population that is likely to be without an appreciable risk of deleterious effects during a lifetime and is to be used for cleanup actions at Superfund sites. The Preliminary Remediation Goal (PRG) that would be developed from the RfD is approximately 51 parts per trillion (ppt) for residential soil and is approximately 600 ppt for commercial/industrial soil. The most prevalent form of dioxin at wood treatment facilities that used pentachlorophenol (PCP) is octachlorodibenzo-p-dioxin (OCDD) which is less toxic than 2,3,7,8-TCDD. Therefore, dioxin PRG should be presented as 2,3,7,8-TCDD equivalents through the use of Toxic Equivalency Factors (TEFs). The dioxin TEFs recommended by EPA are available at the following website: <http://www.epa.gov/raf/files/tefs-for-dioxin-epa-00-r-10-005-final.pdf>.

## **Soil Cover**

EPA does not have a standard cover depth that can be used to reduce risk from soil exposure pathways. The polychlorinated biphenyl (PCB) soil cleanup level under the Toxic Substance Control Act (TSCA) can be modified if a cap of concrete, asphalt or similar material of 6 inches (15 cm) in conjunction with institutional control (e.g., deed restriction) for industrial land use. Therefore, a cover of 6 inches coupled with institutional controls would be considered to be protective of human health and the environment in this scenario. The required thickness of a site cover can be established through existing regulations (i.e., Applicable or Relevant and Appropriate Requirements (ARARs)), or the cover integrity can be assured through site-specific conditions and considerations (e.g., climatic conditions, institutional controls, present land use, potential future land use, etc.).